

Amendments to the Claims:

1. (previously presented): A method for controlling placement of a first part on a second part comprising,

 placing a printed image containing a digital watermark on at least one of said parts,

 capturing a digital image of said printed image,

 reading a grid signal contained in said digital watermark, and

 determining the angular rotation of said at least one of said parts from said grid signal.
2. (previously presented): The method of claim 1 including reading other payload data from said digital watermark.
3. (previously presented): The method of claim 1 wherein said grid signal is used to determine a location of at least one of said parts.
4. (original): The method recited in claim 1 wherein said first part is an electronic component.
5. (original): The method recited in claim 1 wherein said second part is a printed circuit board.

6. (currently amended): A system for controlling a pick and placement machine which places a first part on a second part and wherein at least one of said parts includes a ~~printed image containing a~~ digital watermark, said system comprising:

means for reading data from said digital watermark from said part, and

means for determining the orientation of said at least one of said parts from the data read from said digital watermark.

7. (previously presented): The system of claim 6 including means for reading payload data from said watermark.

8. (previously presented): The system of claim 6 wherein the orientation is used to determine a location of said at least one of said parts.

9. (previously presented): The system of claim 6 wherein the orientation is used to determine a distance of said at least one of said parts from said means for reading.

10. (original): The system of claim 6 wherein said first part is an electronic component.

11. (original): The system of claim 6 wherein said second part is a printed circuit board.

12. (currently amended): A robot for handling items, said robot including,
a camera for acquiring an electronic image of ~~a printed image containing~~ a digital watermark,

a computer including a program for reading a digital watermark in an electronic image acquired by said camera,

a controller for controlling said robot in response to orientation data acquired from said digital watermark, said controller controlling positioning or movement of an item including the digital watermark.

13. (original): The robot recited in claim 12 including means for reading a grid signal from said digital watermark.

14. (original): The robot recited in claim 13 wherein said printed image is on an item to be handled by said robot.

15. (previously presented): The robot recited in claim 14 including means for determining a distance from said camera to the printed image from said grid signal.

16. (previously presented): The robot recited in claim 14 including means for determining a orientation of the printed image from said grid signal.

17. (previously presented): A method for controlling placement of a first part on a second part, wherein the first part includes steganographic encoding redundantly provided thereon, the steganographic encoding including an orientation component, said method comprising:

receiving image data corresponding to at least a portion of the first part, the portion including at least one redundant instance of the steganographic encoding;

reading the orientation component of the steganographic encoding;

determining an orientation of the first part through reference to at least the orientation component of the steganographic encoding;

controlling placement of the first part on the second part through reference to at least the determined orientation of the first part.

18. (previously presented): The method of claim 17, wherein the determined orientation of the first part comprises an angular rotation of the first part.

19. (previously presented): The method of claim 17, wherein the determined orientation of the first part comprises an relative distance of the first part.

20. (previously presented): The method of claim 17, wherein the steganographic encoding further comprises an identifier to identify the first part.

21. (previously presented): A robot for handling items, said robot comprising:
an image sensor for sensing image data of an item including a machine-readable code provided on a surface thereof, wherein the machine-readable code comprises an orientation component;

electronic processing circuitry; and

memory including instructions stored therein for execution by the electronic processing circuitry, the instructions including instructions to:

analyze image data captured by the image sensor,

determine from analyzed image data an orientation of the item relative to the orientation component, and

provide position information based on a determined orientation of the item.

22. (previously presented): The robot of claim 21, wherein the item includes redundant instances of the machine-readable code provided on the surface.

23. (previously presented): The robot of claim 21, wherein the position information comprises at least one of an angular rotation and relative distance.

24. (currently amended): The robot method of claim 21 wherein the machine-readable code comprises steganographic encoding.

25. (currently amended): The robot method of claim 21 wherein the machine-readable code comprises digital watermarking.

26. (previously presented): The method of claim 17 wherein the steganographic encoding comprises digital watermarking.

27. (previously presented): The method of claim 17 wherein the first part comprises an electronic component.

28. (currently amended): The robot method of claim 21 wherein the robot handles items in a pick-and-place system, and wherein at least one of the items comprises an electronic component.